

IN THE SPECIFICATION

(i) Please amend the paragraph starting on page 14, line 17, and ending on page 15, line 2, as follows:

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The content servers 18 maintain corresponding content/business logic 19 and perform appropriate database and legacy system operations (e.g., via CGI scripts, etc.). The content pages and applications in database 19 may be implemented in one or more legacy formats such as HTML, HDML, XML, WML, and any SpeechML format (such as the recent VoiceXML standard that has been proposed as a standard for declaratively describing the conversational UI for, e.g., speech browsers and IVR platforms (see, www.voicexml.org)).

(ii) Please amend the paragraph starting on page 15, line 11, and ending on page 16, line 5, as follows:

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It is to be appreciated that CML documents and CML applications may be implemented in one of various manners. In a preferred embodiment, the CML content is implemented in a modality-independent, single authoring format using a plurality of "conversational gestures" such as described, for example, in U.S. Serial Number 09/544,823 \_\_\_\_\_, filed on April 6, 2000 [~~IBM Docket No. YO999-478, Express Mail No. EK591187624US~~], entitled: "*Methods and Systems For Multi-Modal Browsing and Implementation of A Conversational Markup Language*", which is commonly assigned and fully incorporated herein by reference. Briefly, conversational gestures are elementary dialog components that characterize the dialog interaction with the user and provide abstract representation of the dialog independently of the characteristics

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and UI offered by the device or application rendering the presentation material. Conversational gestures may be implemented either declaratively (e.g., using XML) to describe the dialog or imperatively/procedurally.

(iii) Please amend the paragraph starting on page 18, line 9, and ending on page 19, line 7, as follows:

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The main difference between a gesture-based CML document and a CML document comprising multiple MLs is that the gesture-based approach offers single authoring whereas the multiple ML approach requires multiple authoring. In addition, the gesture-based approach provides "tight" synchronization in multi-modal browsing implementations, which is more difficult to achieve using the multiple ML approach (which often affords "loose" synchronization). In any event, multi-modal CML documents may be transformed to standalone documents for specific interaction modalities using, for example, standard tree transformations as expressible in the known standards XSLT or XSL. Other transcoding techniques may be used such as JSP (java server pages) or Java Beans that implement similar transformations of the CML pages on a gesture-by-gesture basis. ~~Additional~~ Other standard transcoding techniques that may be implemented are well-known in the art ~~discussed, for example, at www.w3e.org~~. Indeed, the implementation of multi-modal documents, which can be transformed to documents of desired modalities, ensures content reuse and meets the accessibility requirements (e.g., a multi-modal document designed with combined visual and aural modalities can be used in environments where only one modality is available).

(iv) Please amend the paragraph starting on page 21, line 10, and ending on page 22, line 12, as follows:

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The registration table 43 of the multi-modal shell 42 is a registry that is implemented as an "n-way" command/event-to-action registration table, wherein each registered command or event in the table indicates a particular action that results in each of the "n" modalities that are synchronized and shared for the active application. The multi-modal shell 42 parses a retrieved CML document to build the synchronization via the registration table 43 and send the relevant modality specific information (e.g., markup language) comprising the CML document to each browser for rendering based on its interaction modality (using the techniques described, for example, in the above-incorporated application U.S. Serial No. 09/544,823

~~[IBM Docket No. YO999-478, filed on April 6, 2000, Express Mail No. EK591187624US]~~. It is to be understood that although the conversational multi-modal browser 40 is illustrated comprising a separate browser application for each supported modality, as well as a separate multi-modal shell layer, it is to be appreciated that the functionalities of these components may be merged into one application comprising the conversational (multi-modal) browser 40. In addition, the components of the multi-modal browser may be distributed. For instance, the multi-modal shell 42 may reside on the conversational portal 11, whereas one of the browsers 44 and 45 (or both) may reside on a client access device, with the multi-modal shell 42 providing the CML parsing and synchronization.

(v) Please amend the paragraph on page 26, lines 1 – 13, as follows:

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The portal transcoder 21 employs one or more transcoding techniques for transforming a CML page to one or more legacy formats. For instance, such transformations may be performed using predetermined transcoding rules. More specifically, such transformations may be encapsulated in device-specific and modality-specific XSL stylesheets (such as described in the above-incorporated applications U.S. Serial No. 09/507,526 and U.S. Serial No. 09/544,823.

~~\_\_\_\_\_ [IBM Docket No. Y0999 478, filed on April 6, 2000, Express Mail No.~~

~~EK591187624US]~~ Furthermore, as indicated above, other transcoding techniques may be used such as JSP or Java Beans that implement similar transformations of the CML pages on a gesture-by-gesture basis.